

WISCONSIN ENDANGERED RESOURCES REPORT # 110

**1994 Census of Blanchard's Cricket Frog
(Acris crepitans blanchardi) in Southwestern WI**

By: Rebecca A. Christoffel and Robert Hay

SUMMARY

Blanchard's cricket frog (*Acris crepitans blanchardi*) was listed as state-endangered by the WDNR in 1982 (WDNR publication ER-527, 1989). Censusing work conducted by Jung in 1991 verified cricket frog populations at 19 of 40 historic locations that she visited. Flooding during the breeding season in 1993 concerned investigators, who anticipated that this event could lead to a further decline in the number of cricket frogs in Wisconsin. During June and July of 1994, a follow-up of census was conducted at 24 historic locations for Blanchard's cricket frogs and at 41 potential cricket frog sites in Grant, Lafayette and Iowa Counties. Blanchard's cricket frogs were found at 10 of 65 sites visited. Of these 10 sites, three were new. Apart from the survey work, a fourth new location for cricket frogs was discovered by Steve Huebner in Lafayette County. The preliminary findings of this survey indicate a sharp decrease in the number of active cricket frog sites. More censusing work should be done for cricket frogs at historic sites and to seek out unreported cricket frog populations in southwestern Wisconsin.

BUREAU OF ENDANGERED RESOURCES
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707
608/266-7012
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Introduction

Blanchard's cricket frog is the only amphibian listed as "endangered" in the state of Wisconsin. Historically quite common in Wisconsin, declines were first noted as early as the 1960's (G. Knudsen, pers. comm.). Since 1980, reports have been verified from only a few counties in southwestern Wisconsin. The cause of the decline in cricket frogs has not been determined (Mossman & Hine 1985), but it has been estimated that less than a thousand cricket frogs now exist in the state.

Male cricket frogs call from late May through July in Wisconsin. Their distinctive calls vary in their pitch and males can be distinguished from one another. This characteristic is helpful in counting individuals calling in one place.

Methods

In order to monitor how cricket frog populations are faring in Wisconsin after the severe flooding experienced in 1993, seven censusing surveys were run during the breeding season of 1994. Three daytime surveys were conducted on June 7, 10, and 24. Four night surveys were conducted on June 15, 21, 25, and July 22.

The surveys were conducted as follows:

- 1.) Stops were made at 24 historic cricket frog sites that had been visited by Jung in 1991, and at 41 areas thought to contain suitable cricket frog habitat. Not all of Jung's sites could be included in 1994. The runs needed to be run in as efficient and timely a manner as possible so some sites were dropped from the survey. One site of Jung's had been drained and was no longer suitable habitat for cricket frogs. Additionally, two sites were unreachable due to road construction in 1994. The number of sites visited per trip ranged from 15 to 39, depending on weather and timing.
- 2.) At each stop, the car was pulled over to the side of the road, the engine was shut down and if necessary the observer left the car to stand closer to the wetland. All frog species heard calling for a time period of five minutes were recorded.
- 3.) When cricket frogs were determined to be present, the observer attempted to count and record the number of males calling at each site.

Results

Table 1 lists the number of sites visited per run, the number of sites that had Blanchard's cricket frogs calling per run, and the number of individuals that could be identified for the total run. Table 2 lists site numbers and the anuran species found calling at each site over the course of the censusing period.

Blanchard's cricket frogs were found at 10 of 65 sites censused (15.4%), and frogs were found in Iowa, Lafayette, and Grant Counties. In 1992, Jung reported the presence of cricket frogs at 19 of 40 historic sites visited. Cricket frogs were recorded at seven of the 24 Jung sites that were revisited in 1994 (29.2%). Seven sites where Jung had counted cricket frogs in 1991 were not included in the 1994 census. Three new cricket frog sites were recorded by the author. A fourth new site was added by Steve Huebner in Lafayette County. A total of 47 individuals and two choruses were recorded during this study. Because the number of individuals could not be counted at the two full-chorus sites, no population estimates were made.

Green frogs were most often heard with cricket frogs, at all 10 sites. Eastern gray treefrogs were the second most frequently heard anuran with cricket frogs (73%). Green frogs and eastern gray treefrogs were found associated with cricket frogs in Jung's 1992 report (79% and 63%, respectively).

Discussion

Estimates of male Blanchard's cricket frogs at each site are extremely conservative, as frogs were not captured, but were only censused by sound. Some males may not have been calling when censusing took place (Perrill & Magier 1988).

Distribution in types of habitats where active cricket frog populations were found differed in 1994 from Jung's findings in 1991. Jung found cricket frogs at 13 stream or river sites (68% of active sites) and at six pond or lake sites (32% of active sites) in 1991. In 1994, cricket frogs were found at two stream or river sites and at nine lake or pond sites (18% and 82% of active sites, respectively). Only 1 of 5 active stream/river sites in 1991 and resurveyed in 1994 had cricket frogs present. This may indicate that the flooding of 1993 had negative impacts on these and other lentic breeding sites.

Most of the sites surveyed consisted of potentially suitable habitat - permanent or semipermanent bodies of water with mud banks (Minton 1972). But mudflats were not always present, especially at bridge crossings where banks were sometimes rather steep. Jung (1992) was unable to find any relationship between the presence or absence of Blanchard's cricket frogs and pastures, water depth, bottom type, or percent cover of algae or rooted aquatic plants. More information is needed for vigorous analysis of habitat suitability,

perhaps incorporating aspect and/or slope of stream banks among other measures.

The common association of calling Blanchard's cricket frogs with calling green frogs and calling eastern gray treefrogs does not seem surprising. The calling phenology and habitat requirement for permanent water are shared by cricket frogs and green frogs. Green frogs were found in ponds or lakes almost as often as they were found along streams or rivers. Gray treefrogs have a long calling period and are often heard from trees along rivers and streams. During this censusing, eastern gray treefrogs were heard almost four times as often at rivers and streams as in ponds.

Flooding in 1993 may be responsible for the decrease and/or absence of cricket frogs on some sites which previously supported cricket frog populations. Flooding occurred during the breeding season for cricket frogs and may have disrupted or interfered with reproduction. Cricket frog eggs or larvae may have been washed out to larger bodies of water where predators were present.

Land use and associated habitat and species changes may also be responsible for the decline in calling frogs. In 1984, Dick Nikolai found 220 cricket frogs in a dairy farm pond (Mossman and Hine, 1985). Cows have since been removed from this site. Where the banks of the pond were once sparsely vegetated and muddy due to the movement of cows, they are now heavily vegetated with tall grass. Green frogs were not recorded on this site until 1991. At that time, few were present. By 1994, the pond was full of green frogs. The decline in numbers of cricket frogs at this site has been precipitous. In 1991, Jung found just 27 male cricket frogs calling there. In 1994, one lone male was recorded at this site.

The preliminary findings of this censusing work indicate a sharp decrease in the number of areas where cricket frogs are known to breed in Wisconsin. More censusing work should be done for cricket frogs at historic sites as well as seeking out unreported cricket frog populations in southwestern Wisconsin.

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Table 1. Cricket frog calling information

Run No.	No. of Sites Visited	No of Sites with Cricket Frogs Calling	No. of Cricket Frogs Calling
1	30	1	02
2	20	1	01
3	25	6	14
4	23	6	Chorus + 12
5	39	1	01
6	15	7	16
7	16	2	<u>Chorus + 01</u>
Total			2 Choruses + 47

Table 2. Anuran Species Found at Each Site

(CF=chorus frog, SP=spring peeper, CGTF=Cope's gray treefrog, EGTF=eastern gray treefrog, AT=American toad, LF=leopard frog, PF=pickereel frog, BCF=Blanchard's cricket frog, GF=green frog, BF=bullfrog)

[illegible]

Table 2 (con'd)

<u>Cty. Site No.</u>	<u>CF</u>	<u>SP</u>	<u>CGTF</u>	<u>EGTF</u>	<u>AT</u>	<u>LF</u>	<u>PF</u>	<u>BCF</u>	<u>GF</u>	<u>BF</u>
Grant										
14				X						
15				X	X				X	
16										
18			X	X	X			X	X	
20										
21										
22				X						
23										
24		X	X	X				X	X	
25				X					X	
26				X	X				X	
27										
28									X	
29										
30									X	
31					X					
32		X		X	X					
33				X	X				X	
34										
35				X						
36										
37									X	
38				X	X				X	
Lafayette										
05				X				X	X	
06									X	
07								X	X	
